

AMENDMRNTS TO THE CLAIMS

Complete listing of the Claims

22. (Previously Presented) A method for the manufacturing of porcelain stoneware tiles with anti-pollution properties, characterised by the fact that the method comprises the following steps:

applying a variable percentage of TiO₂ in a covering glaze with a silk-screening paste and engobe finish to a tile to provide a covering layer on the tile;

adding particles of material to the covering glaze designed to increase the refraction of the solar light to which the tiles are exposed.

adding substances designed to absorb NO_x to the covering layer and/or to the material of which the engobe is made;

creating micro channels in a thickness of the covering layer of the tile, said micro channels being designed to increase the permeability to water of said tiles;

creating micro uneven-areas in the thickness of the aforesaid covering layer, said micro uneven areas being designed to increase the exchange surface between the single tile and the atmosphere;

insufflating or blowing air on the covering layer during the traditional firing at 1200°C; said blowing of air being designed to produce an improvement in the photocatalytic effect of the TiO₂, the presence of the TiO₂ in the single tile varies from 1% to 25% and is used in the form of anastase, the materials designed to increase the refraction of the solar light to which the tiles are exposed comprise white pigment and particles of silica; said pigments and said silica both being applied to the same ceramic tile, the application of the TiO₂ to the covering layer is obtained by means of a brush without air, functioning under high pressure; and

the engobe is applied by means of a disk booth, the application of the materials designed to increase the refraction of solar light to which the tiles are exposed is obtained by means of silk-screening machines designed to apply glaze by means of silicone rollers according to the thickness wanted, the substances added to the covering which are designed to facilitate the absorption of the NO_x are magalite and one of zeolite or petalite; said magalite is mixed in with the engobe, while the zeolite or petalite are mixed in with the glaze, and the application to the glaze of materials designed to increase the refraction of solar light and of substances designed to absorb NO_x, and the creation, also in the covering layer, of micro channels and uneven areas are obtained simultaneously through the use of four synchronized silicon rollers in the following order: a first roller creates uneven areas on the base of every single tile, a second roller applies the substance designed to absorb NO_x, a third roller applies the material designed to increase the refraction, and a fourth roller compacts everything, redefines the micro uneven areas and produces micro channels.

Claims 23-42 (Previously Cancelled)

42. (previously Presented) A ceramic tile made according to the method of claim 22.